
ZXAppeal

Mar. '86

Newsletter of the

\$ 1.50

VANCOUVER SINCLAIR USERS GROUP

*
*
* **Next Meeting** *
* *
* Killarny Community Centre *
* 6260 Killarny st. Vanc. *
* *
* Mar. 14 7 PM *
* *
* ELECTION NIGHT *
* COME AND VOTE!!! *
* *

In this issue:

An Editors last Hurrah.
Harvey bares his ROM
Robots secret meeting exposed
Other guys stuff,
and Bob,s, too.

ZXAppeal is a monthly newsletter put out by the Vancouver Sinclair Users Group. For more information on the club and ZXAppeal see the backcover. In order to 'beat the deadline' material for ZXAppeal may be send directly to the editor 2308 Marine Drive West Vancouver. B.C. V7V 1K8. Marcio Vieira 'the Pres.' can be reached at 984-8893



Who.. What.. Where...

EDITORS PREAMBLE.

Well here it is, my last Hurrah. It is fitting that this is the March '86 issue, March '85 was my first one.

It has been fun, you bet, and I do hope the new editor allows me to publish a small piece every once in a while just to keep in practice.

Reasons? Well I went and brought this OTHER computer and I will be busy with it for a while, which reminds me.

I have one of only three Aerco diskdrive interfaces in Vancouver.

I have also 3 years worth of accumulated software, with manuals, on disk. The interface plus drive cost me \$ 500.-. I will look at any serious offer on the drive and software package. I have talked to one interested party sofar, if you are interested you know where to reach me.

Note by the way that I am not selling my computer or my 64K RAMpack. It is not my intention to get out of the ZX world. Sometime in the future I will rig my new computer and the ZX together and have some fun.

Oh by the way if you buy the drive unit and wish to run the much celebrated R.DOS on it you must have, at the least, memory in the 8 to 12K area.

Lets get on with it. The first thing one noticed, upon entering the Feb. 14 meeting, was, not one, but TWO QL,s. We were looking forward to a demo of the vaunted QL network capability but alas the software to make it tick was left at home. As it was, Harvey Taylor was able to show us his Mandelbrot set graphics program.

Yes you may well ask. All I can tell you is this. Creating graphics using this Mandelbrot thing entails some heavy, heavy math and it is the hottest thing in computer graphics right now.

The reason for this is the amazing graphics capabilities of the new generation of micro computers.

To give you some idea of the math involved in drawing a Mandelbrot display. It took Harvey,s machinelanguage program 6 hours to fill the screen with a pattern which looks for all the world like a negative photograph of the sun in a active sunspot phase.

I know of a computer that can do a 320 by 200 display in half an hour mind you, but I promised not to rub it in.

The treasurers report is now a definite maybe for the next newsletter. The meeting got a verbal report which mainly told us that the balance had shrunk a little between '85 and '86 but the new dues structure should take care of this.

Well. This is it, March is elections month. The very air is charged with the excitement of it all. Who will be in charge of the Vancouver Sinclair Users Group this time next month. What power structure will put its indelible stamp on our club, whose election machine will carry its triumphant drivers to the very pinnacle of VSUG power.

Come in and vote on March 14th. Also bring your nominations and or volunteer yourself. Yes you 2068/spectrum and QL owners that means you, too.

Ken Abramson claims that his robot parlez francais. Sure Ken snickeur snickeur. Why don't you bring Bert in, next meeting, and let him parlez for himself?

By the way the only confirmed volunteer for a VSUG office is Ian Mclean as librarian and it was decided at the meeting that, for now, only P.D. software should made available. Bring some March 14th.

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PLAYING WITH ELECTRICITY (Ex+2)

by Harvey Taylor

This month I am presenting a simple little Basic program that takes you into the heart of the QL ROM. Superbasic is extensible. You can add machine language Procedures and Functions which act just like they were in ROM. The way the machine handles this is to create a list of the Functions & Procedures and update it. Because the machine is multitasking we have to find the Basic Job, (which is always Job#0.) The pointer to this area of memory is kept in the System Variable SV_Basic.

SV_BASIC ->	BASIC JOB HEADER	(\$68 BYTES)
\$00	BV_START	POINTER BASE
..		
\$10	BV_PFBAS	PROGRAM FILE
\$14	BV_PFP	TOP OF PROG FILE
\$18	BV_NBAS	NAME TABLE
\$1C	BV_NTP	TOP NAME TABLE
\$20	BV_NLBAS	NAME LIST
\$24	BV_NLP	TOP NAME LIST
\$28	BV_VVRAS	VARIABLE VALUES
\$2C	BV_VVP	TOP VAR. VALUES
..		
\$100	BV_END	TOP OF BASIC VAIG.

Once we know how this section is set up we can write a simple basic program which will pull these names, values & addresses from the tables. In particular, the basic listing given will print the name of each Procedure, Function and its address in ROM; the name of each variable and its value, if it has one. Note that the size of the Basic area changes while the program runs & so it sometimes generates garbage. What happens is that the name will come out as two or three lines of garbage &/or other names. One way around this would be to rewrite the procedures as functions, so that each time the values of offsets used are dynamically updated rather than what they were when the program first started running. I believe the classic cop out is, this is left as an exercise for the student.

NOTE: Adrian Dickens incorrectly says (Page 330) that SV_basic is a pointer to the base of the Basic stack. Also while involved in other work I noticed that he has (page 329) RI_SUB as TOS-NOS, when it is NOS-TOS. This is the kind of thing that gives you grey hairs if you don't catch it.

If this should happen into the hands of any QL'er out of Vancouver, why don't you drop me a line. I'd like to hear from you.

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VANCOUVER ROBOT CLUB

February 13th., 1986.

Our next meeting will be on March 3rd., 1986 at 630 PM.
Normal location, meeting open to anyone, admission free.
Phone 681 9531 during the day for information, ask for Al.

At our last meeting on February 3rd., 1986. Ken demonstrated his Turtle designed Robot, which has a expanded 2K (Fat Bert) and it gave quite a talk and a good demonstration of its features. Ken is using it at his school as a teaching aid. Well done Ken.

Karl has his I/R sensors working along with a nice program that has slight pauses then goes forward, if it encounters a object it says "excuse me" and moves a 45 degree angle or so then continues to move forward etc., In all this is a nice feature and really enhances bertl.

Karl's night school Robot class will now commence around March or April, you should phone VVI for further information.

Bob and myself have been working on a small keyboard to be mounted on Bert and we hope to have it working, and to offer it to you all soon.

A few of us have had quite a few requests to show off our Robots, would any other Bert owners want to joint us? Please let us know.

Karl is working on all kind of new things for Robots, so why not come to the next meet and find out whats new.

PS: If anyone has general type questions feel free to home me during the day (681 9531)

AL.

PASSWORD PROTECTION FOR THE 1000
From T-S HORIZONS #10 By Mather White

It's fun to have Passwords on your Program. This is a short Password Program Protection routine:

```
1 POKE 16509,188                    6 POKE 16509,0
2 SAVE "PROGRAM NAME"               7 REM REST OF PROGRAM
3 PRINT "PASSWORD?"                 If someone decides to break the
4 INPUT I$                           Password Protection by entering
5 IF I$(<>)"YOUR PASSWORD" THEN     STOP, or BREAK at INPUT, use of
NEW                                   the Program will be denied.NEAT
```


TIMEX TIPS

By

Chuck Dawson

This is intended to be a collection of useful tips and techniques either not mentioned in the manual or not fully explained. I welcome any TIMEX TIPS that you may have discovered and would like to share with others. After all, that is why we form user organizations - to share knowledge and Pick up ideas from others.

QUESTION: In the book "Programming Your TS 1000", it says you must name a Program with a REM statement, then enter the command SAVE and the name in quotes. TS USER says include the name in a REM statement and later in the Program include a line with SAVE and the name. I thought REM statements were ignored, so how can they have any effect in the matter?

ANSWER: You are right! The computer ignores all REM statements. They are there for you. It is possible, with the TS 1000, to SAVE a Program and then forget the name you used. That is the reason for the REM which shows the name of the Program. If, on the other hand, you want the Program to auto run after loading, then you include the SAVE "NAME" as a line in the Program. In that case, you can always look at the listing to get the name so the REM is really not needed. However, some people like the name near the beginning of a Program so they don't have to look for it. This is probably the reason it was suggested you add a REM near the beginning of the listing.

Here is a tip for TS 2068 users. Include the following as the first line of a Program: 1 REM SAVE "name" LINE 10. This shows the name and also makes for an easy way to save the Program to auto run at line 10 (or whatever). Just pull the REM line down to the bottom of the screen using EDIT (CAPS SHIFT 1), delete the REM and line number, and Press ENTER. The Program will save, and it will verify properly. This is not the case when using a SAVE command down in the Program somewhere. To enter two keywords on the same line, you enter the second keyword (SAVE), then move the cursor to the left using the CAPS SHIFT 5, and type the first keyword (REM).

QUESTION: I have several Programs which use many PRINT statements throughout to send data to the screen. Is there a way I can send the data to the 2040 Printer without rewriting all the PRINT statements to LPPRINT's? I have a TS 2068.

ANSWER: Yes, it just so happens there is. This is possible because of the very flexible way the 2068 operating system is designed. Before running the Program, do this: OPEN # 2, "P". This sends all data normally destined for the screen to the printer buffer. You can return things to normal by entering: CLOSE # 2. I hope this is useful to you.

QUESTION: How can I Print a message on the bottom line of the 2068 screen without using INPUT?

ANSWER: Just add the symbols "#1;" after the PRINT. For example, PRINT #1;"Hi there!" will Print on the bottom line. You must add a PAUSE 0 if it is near the end of the Program, or the "Hi there!" will be overwritten by the "OK" showing that the Program has successfully been completed.

=====

Rules for playing

1 REM ADAPTED FROM S1 GAME
PROGRAMS FOR THE T/S 1000,1500
THIS PROGRAM WILL ALSO RUN ON

```

THE T/S 2068
5 DIM B$(10,10)
10 LET B$(1) = "12345678"
20 LET B$(2) = "1XXXXX1"
30 LET B$(3) = "2XXXXX2"
40 LET B$(4) = "3XXXXX3"
50 LET B$(5) = "4XXXXX4"
60 LET B$(6) = "5XXXXX5"
70 LET B$(7) = "6XXXXX6"
80 LET B$(8) = "7XXXXX7"
90 LET B$(9) = "8XXXXX8"
100 LET B$(10) = "12345678"
102 LET H$=""
105 LET CS=0
110 DIM S$(12,12)
115 FOR I=1 TO 10
117 LET C$=B$(I)
120 FOR B=1 TO 10
123 LET S$(A,B)=C$(B TO ) (1)
130 NEXT B
132 NEXT A
135 IF AND(.5 THEN GO TO 150
140 LET S$(5,5)="X"
141 LET S$(6,7)=" "
150 GO SUB 1130
155 PRINT
157 IF CS=12 THEN PRINT "I WIN"
" :3W
160 PRINT AT 15,0;"FROM?"
165 INPUT MOVE
168 PRINT AT 15,4;" ";MOVE;" TO
?"
171 LET A=INT (MOVE/10)
178 LET S=MOVE-10*A
170 INPUT MOVE
171 PRINT AT 15,0;"
"
172 LET C=INT (MOVE/10)
175 LET O=MOVE-10*C
180 IF ABS (A-C)>1 OR ABS (B-D)
)>1 THEN GO TO 160
190 IF S$(C+1)(D+1)="X" THEN LE
T H$=H$+1
210 LET S$(A+1)(B+1)=" "
221 LET S$(C+1)(D+1)="O"
240 GO SUB 1130
245 IF H$=12 THEN PRINT "YOU WI
N " :SU
250 LET A$=""
255 GO SUB 1000
257 IF AL=1 THEN GO TO 300
260 LET A$=""
265 GO SUB 1000
300 LET S$(E)(F)=" "
305 IF S$(E+G)(F+H)="O" THEN LE
T CS=CS+1
310 LET S$(E+G)(F+H)="X"
320 GO TO 150

```

You move only diagonally, no multiple jumps.
You capture an opponent by landing on top.
In this version you move first. This can be changed too let the computer go first, I prefer the human move first.
In this version you have 12 moves to win the game, this can be changed to any amount of moves you prefer.
In order to make moves, numbers from left to bottom or your first coordinates, your second entry will be the square your moving to, (example (from-62-to51)).
I hope you enjoy this game of checkers.

Rick Shope

```

1000 LET E=2
1001 LET F=2
1002 LET G=0
1003 LET H=0
1004 LET AL=0
1010 LET FL=0
1020 IF S$(E)(F)<>"X" THEN GO TO
1100
1040 IF S$(E+1)(F+1)=A$ OR S$(E+
1)(F-1)=A$ THEN LET G=1
1050 IF S$(E+1)(F+1)=A$ OR S$(E-
1)(F+1)=A$ THEN LET H=1
1060 IF S$(E-1)(F+1)=A$ OR S$(E-
1)(F-1)=A$ THEN LET G=-1
1070 IF S$(E+1)(F-1)=A$ OR S$(E-
1)(F-1)=A$ THEN LET H=-1
1080 IF G<>0 AND H<>0 THEN LET F
L=1
1085 IF FL=1 THEN RETURN
1100 LET E=E+1
1101 IF E>10 THEN LET F=F+1
1102 IF F>10 THEN LET E=2
1110 IF F>10 THEN RETURN
1120 GO TO 1010
1125 STOP
1130 PRINT AT 0,0;
1132 FOR A=1 TO 10
1135 PRINT
1140 FOR B=1 TO 10
1145 PRINT S$(A,B);
1150 NEXT B
1155 NEXT A
1160 PRINT
1165 PRINT
1170 PRINT "ME: "; CS; " YOU: "
; H$
1180 RETURN
2000 SAVE "BATTLE"

```

```

12345678
1X X X X X 1
2X X X X X 2
3X X X X X 3
4X X X X X 4
50 0 0 0 0 5
60 0 0 0 0 6
70 0 0 0 0 7
80 0 0 0 0 8
12345678

```

ME: 0 YOU: 0

FROM:

TIMER TIPS
By Chuck Dawson

QUESTION: What is the STR\$ function used for?

ANSWER: The argument (the expression following the keyword) of STR\$ must be a number or a variable that stands for a number (like X). The STR\$ takes that number and changes it to a string and assigns it to a string variable (like X\$). It can now be sliced or manipulated as a string. This would be a good way to look for the decimal and line it up for Proper Printing.

QUESTION: How do you use the commands "IN" and "OUT"?

ANSWER: These are usually used in machine code but Sinclair added them to the keyboard as part of the BASIC. They are used to send and receive data on one of the 256 "PORTS" which are available. Usually, these ports are wired to external devices like MODEMS and Printers. As an example, the AERCO Printer interface is wired to Port 127. Data can be sent from a program to the printer by the command OUT 127, data. To keep things running smoothly, we follow with an IN 127. This can take the form LET B = IN 127 or if you don't need the IN data, simply RANDOMIZE IN 127. Try the following program without loading the

```

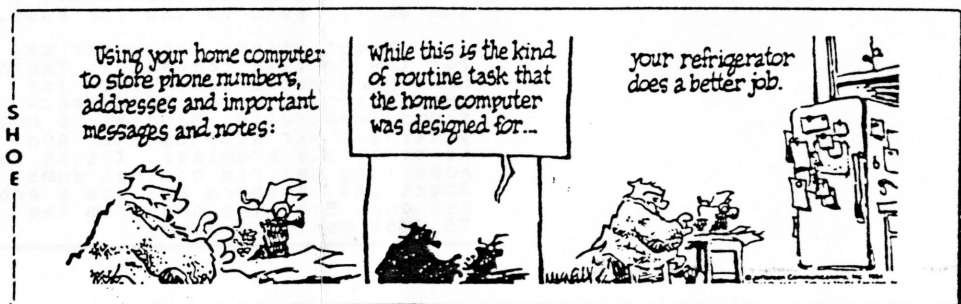
Printer driver program. Line 60 sends the carriage return.
10 INPUT LINE A$
20 FOR I = 1 TO LEN A$
30 LET A = CODE A$(I)
40 OUT 127,A : RANDOMIZE IN 127
50 NEXT I
60 OUT 127,13 : RANDOMIZE IN 127
70 GO TO 10

```

Normally, we would need to check a "busy line" before sending another letter, but BASIC is so slow compared to M/C that this is not needed in this case.

QUESTION: Can I delete a variable once it has been assigned?

ANSWER: Of course. CLEAR deletes all the variables, but I assume you meant just one variable at a time. This can be done with variables that were created by the DIMension function. Let's say you entered DIM X(35). Later you want to delete the X variable and recover the memory space. Just enter DIM X(0). This results in an error message because you cannot DIMension for zero but before the computer gets around to checking for that, it has already wiped out the old X variable. Within a program, you could handle the error with an ON ERR CONTINUE before the DIM and ON ERR RESET after it.



2068-SPECTRUM CORNER

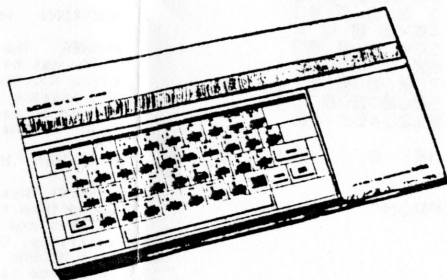
by R. Lussier

Well all you 2068'ers with Keytops becoming worn-out, good news at last. The RMG Enterprise 1419 1/2 7th Street, Oregon City, Oregon 97045 have replacement KEYTOPS that are laminated and will not slip. The price is U.S. \$3.50 including Postage.

The Curry Computer at PO Box 5607, Glendale, AZ 85312-5607 do have the Z-LINK (a SPECTRUM BUS emulator) at U.S. \$31.00 inc. the Postage. This will enable you to use the Spectrum hardware on the T/S 2068.

There is a unit called the "RAINBOW" from Damco Enterprises 59 Bradley Ct., Fall River, MA 02720. This unit is a combination of EMULATOR with a switch to go from 2068 to Spectrum and a Bus Adaptor to use Spectrum hardware at U.S. \$52.00 including Post. This is the company that sells the Wafadrive Unit.

The Spectrum+ in England has now dropped to below the £100.00 mark. This I would say is to allow a price niche for the Spectrum 128K which is supposedly to come on the British scene at the end of January. It is likely the Sinclair Co. will be launching the Spectrum portable in April/86. The portable will apparently include a built-in Green Monitor screen and a Microdrive.



SPECTRUM 128K Update

by R. Lussier

The NEW British version of the Spectrum 128K computers now seem to be ready.

A consignment of 3000 of these units were shipped via the Tokyo, Japan route to a company called MCK Freight. These are agents for Sinclair in Cottenham Cambridge.

These units are apparently being built by our old TS 2068 buddies, Samsung in Seoul, South Korea. These computers intended to form a basis for a stock-pile of the new models prior to the proposed UK launch in the early part of 1986. Samsung are now also producing the Spectrum+, & the QL for sale in the far east.

Negotiations are under way for the British companies, Thorn EMI, AB Electronics, Timex for the construction of 128K Spectrums. Hopefully, Sinclair's now getting their act together and no more late promises. I also do hope they get rid of that dumb Spectrum+ keyboard and use a proper one. Even the one from the TS 2068 would be good.

SOFTWARE REVIEWS

by R. Lussier

These are reviews for the 2055 using the ROMSWITCH/Emulator & the Spectrum computers.

GYROSCOPE

This game is styled after an arcade game called "MARELLI MARNESI". It has a futuristic 3D gridstyle landscape with some weird folds & steep slopes.

You manoeuvre a gyro around the hazards, down slopes, up the hills to the end of each course using the keyboard or joystick. You have five gyros and for the Spectrum it has very nice synthesized music to go with the game. One of the few games available worth the money.

GRAPHICS: 90%
SOUND: 80%
MONEY VALUE: 80%
PLAYABILITY: 90%
PRICE: £7.40 inc. Post

Bargain Software,
Unit 1, 1 Esmond Rd.,
London W4 1UG,
England

LORD of the RINGS

Well "HOBBIT" fans the new sequel that we have all been anxiously waiting for is now here. This is quite a long program and has two (2) tapes, instructions, and the book of the Lord of the Rings, Part 1.

It has astonishing vocabulary, graphics, and more locations than you could imagine. It is available @ £13.90 inc. Air Post from the above vendor.



SPECTRUM WORLD PEN-PALS

by R. Lussier

- (1) Andreas Schnoedewino,
Dessauerstr. 58a,
40550 Moenchengladbach 1,
West Germany
- (2) Agust Arni Johnsson,
Snorra Bravat 50,
105 Reykjavik,
Iceland
- (3) Carles Ferry,
Clot 25, A-1,
08026 Barcelona,
Spain
- (4) John E. Restano,
6/3 King Yard Lane,
Gibraltar
- (5) Dino Mangion,
17 Zinnia St.,
Saint Lucia,
Malta
- (6) Lech Doroszczczyk,
ul. Barcza 3 m.10,
10-686 Olsztyn,
Poland

NEW NEWSLETTER

by R. Lussier

This newsletter is related to ASTRONOMY type information & tends to most computers even the ZX81/TS1000-1500 and the TS2068.

The address for this Newsletter if interested is:

Computer Astronomy Network,
20 Helen Street,
Warren, NJ 07050
U.S.A.

The rates for this Newsletter are U.S.\$3.00/6issues or at \$0.50 each. This is a Bi-monthly publication.

Another address which may interest you for Astronomy Programs for the Timex/Sinclair computers is:

Waterloo Amateur Astro. Society,
25 Bridgeport Road East,
Waterloo, Ontario N2J 2J4
Canada

If interested in any of the above please do not hesitate to write to them. This sounds like an interesting section of computing. I myself have quite a few programs on Astronomy for the TS 2068/Spectrum computers. These are: "Astronomy Compilation", "Space Scan", "World Globe", "The Cosmos", "Planetarium", "The Night Sky", "The Solar System".

QL SOFTWARE

by R. Lussier

These are new QL Programs which are mostly games and one simulator. The names are:-

- (1) Lands of Havoc
(a 2000+ screen Arcade Adventure. The first MEGA game on the QL, includes 9 colored maps, excellent graphics and sound) @ £19.95+post.
- (2) Crazy Painter
(Arcade game with 8 levels, hi-res graphics and superb music) @ £12.95+post.
- (3) Outbert in Space
(Fast moving "jet-pac" type arcade game.) @ £14.95+post.
- (4) Hopper
(This is an enhanced "FROGGER" type game. The graphics are quite good.) @ £14.95+post
- (5) Q.L. FLIGHT
(This is a Flight Simulator with 9 different scenes. Take off-land-refuel a light aircraft. You can do air-obatics, fly from scene to scene. Avoid power lines, & mountains & watch your fuel. All this with a realistic cockpit and using Wire Line graphics. It sure looks good and along the same style as the Apple II version.) @ £19.95+post.

All the above programs are available from:-

MICROPOST,
41 Truro Road,
St. Austell,
Cornwall PL25 5JE,
England

QL CORNER

by R. Lussier

GOOD NEWS!! The O.W. Associates, 419 N. Johnson St., Ada, Ohio 45810 is now selling the QL at U.S.\$255 inc. Post. This is a very good price. They do not now accept Credit Cards, this is to keep the price down, but will accept cheques & Money-Orders.

They also have a very good selection of QL software such as the QL 3D Chess and at good fair prices. They will soon be releasing a RGB to Composite monitor converter.

The Knighted Computers, 707 Highland St., Fulton, NY 13069 now has available a 20 page Catalog on QL software & hardware which is very good. It's FREE, ask for one.

Digital Precision, 91 Manor Road, Higham Hill, London E17, England has programs for the QL such as SUPERCHARGE, a new super Basic Compiler, QL Sprite Generator with 255 Sprites & Plane of movements, Super Astrologer, a computerized and very detailed Horoscope type program. They do have a list if interested.

There does now seem to be a lot of new material becoming on the scene for the QL and might tend to make people think twice about purchasing this powerful computer. Till next time!!!

WORD-WRAP on QL

by R. Lussier

This is a very simple procedure for the QL which ensures that words are not truncated at the end of a window...that is, it provides a word-wrap.

It does this without needing to specify the window size or a character size because it uses the "!" print delimiter.

```
8000 REMARK FITWORD. A.Pritchard
8010 REMARK Procedure to word
      wrap
8020 REMARK any length of text
      to any
8030 REMARK window width in any
      mode.
8040 REMARK Parameters : channel
      text
8050 :
8060 DEFINE PROCEDURE fitword(c,
      a$)
8070 LOCAL i, ll, z, b$
8080 ll=LEN(a$)
8090 IF ll=0 THEN RETURN
8100 i=1
8110 REPEAT fword
8120   z="" INSTR a$(i TO ll)
8130 IF z=0 THEN
8140   b#=a$(i TO ll)
8150   z=ll-1
8160 ELSE
8170   b#=a$(i TO i+z-2)
8180 END IF
8190 i=i+z
8200 PRINT#c, !b#!
8210 IF i>=ll THEN
8220   EXIT fword
8230 END IF
8240 END REPEAT fword
8250 END DEFINE
```

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HEADER-READER 2068

by R. Lussier & SUM Mag.

Loading a program into the 2068 is always divided into two parts, the Header and then the program or bytes or array.

R-HEADER reads the header without loading the program. The header contains the following information:

- (1) Program type (Basic, code, and array)
- (2) Name
- (3) Length with & without variables
- (4) Auto-Run line (Basic)
- (5) Byte Origin (Code)

Type in the listing & save it before RUNNING. Then RUN, and follow instructions. The program will list contents of any header it encounters from tape.

```
1 REM R-HEADER 2068
2 CLEAR 31999
5 BORDER 0: PAPER 0: BRIGHT 1
: INK 5: CLS
10 GO SUB 1000
50 CLS : GO SUB 600: BEEP .01,
10: PRINT AT 10,9: INK 0: PAPER
6: FLASH 1: "START CASSETTE"
60 RANDOMIZE USR 32000
65 BEEP .01,45
69 CLS : GO SUB 600
70 LET ix=32256
80 LET type=PEEK ix
90 PRINT INVERSE 1;"Program:"
AND type=0)+("Numeric Array:" A
ND type=1)+("String Array:" AND
type=2)+("Bytes Block:" AND type
=3);
100 PRINT INVERSE 0;" "; FOR n
=ix+1 TO ix+10: PRINT CHR$ PEEK
n: NEXT n
110 PRINT INVERSE 1;"+"("Prog,+U
ariable:" AND type=0)+("Code " A
ND type); " Length:";
120 PRINT INVERSE 0;" ";PEEK (i
x+11)+256*PEEK (ix+12)
130 IF type=1 OR type=2 THEN PR
INT INVERSE 1;"Variable:"; PRIN
T INVERSE 0;" ";CHR$ (PEEK (ix+1
4)-32-64*(PEEK (ix+14)>192))+("$
" AND type=2): GO TO 175
140 PRINT : PRINT INVERSE 1;"(
Auto-Run Line:" AND type=0)+("Bl
ock Origin:" AND type=3);
```

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From Page 2

If possible, make up a list of all the software you are able to contribute to the library, this way Ian can check for duplication of effort and nip it in the butt while the nipping is good.

The question of repair support was brought up again and again I must point at D. Ross. He has access to all the parts. Apparently parts for the Spectrum are also available but how well they fit in the 2068 I don't know. Maybe parts from the Silver Avenger can be used, also, there must be parts from Timex still floating around North America, maybe Bob Lussier can find out.

If you ever have any trouble with you ZX81 keyboard talk to Ken Abramson he has got the thing figured out.

Anyhow folks this was, for the last time.

Paul (the editor) Ruiterman.

```
150 PRINT INVERSE 0;" ";PEEK (i
x+13)+256*PEEK (ix+14)
155 IF type=3 THEN GO TO 175
160 PRINT INVERSE 1;"Program L
ength:" AND type=0);
170 PRINT INVERSE 0;" ";PEEK (i
x+15)+256*PEEK (ix+16)
175 PRINT "" OVER 1;".....
*****
180 PRINT "" OVER 1;"s: STOP
ENTER: CONTINUE "; PAUSE 0
: IF INKEY#="s" OR INKEY#="S" TH
EN STOP
190 RUN
600 PLOT 0,0: DRAW 255,0: DRAW
0,175: DRAW -255,0: DRAW 0,-175:
PRINT INVERSE 1;AT 0,9;"R-HEADE
R 2068";AT 1,9;"GAGNON-0 85 ""
610 RETURN
1000 REM -----the M.C.
1010 DATA 221,33,0,126,175,17,17
202,55,1,254,254,205,153,100,205,
252,0,186,32,240,219,255,203,191
211,255,175,211,244,201
1020 FOR I=32000 TO 32030: READ
A: POKE I,A: NEXT I
1030 RETURN
9991 SAVE "lect2068" LINE 1: VER
IFY "lect2068"
```

```

100 REMark sys_var Dec/85 by H.Taylor
120 layout
140 printer
160 SV_BASE=HEX('28000')
180 HDR=104
200 PRINT 'SYSTEM VARIABLES      ':HEX$(SV_BASE,24)
220 BAS_AREA=PEEK_L(SV_BASE + 16)
240 PRINT 'BASIC AREA      BASE: ':HEX$(BAS_AREA,24)
260 REMark
280 BAS_END=PEEK_L(SV_BASE + 20)
300 PRINT '      END: ':HEX$(BAS_END,24)
320 PNTR_BAS=BAS_AREA + HDR
340 PRINT 'POINTERS      BASE: ':HEX$(PNTR_BAS,24)
360 REMark
380 BV_TOP=PNTR_BAS + 256
400 PRINT 'BASIC VARIABLES  END: ':HEX$(BV_TOP,24)
420 REMark
440 PROG_FILE=PNTR_BAS+ 16
460 OFFSET=PEEK_L(PROG_FILE)
480 PF_START=PNTR_BAS + OFFSET
500 PRINT 'PROGRAM FILE      BASE: ':HEX$(PF_START,24)
520 REMark
540 FILE_END=PNTR_BAS + 20
560 OFFSET=PEEK_L(FILE_END)
580 PF_END=PNTR_BAS + OFFSET
600 PRINT '      END: ':HEX$(PF_END,24)
620 REMark
640 NAM_TABL=PNTR_BAS + 24
660 OFFSET=PEEK_L(NAM_TABL)
680 NT_START=PNTR_BAS+ OFFSET
700 PRINT 'NAME TABLE      BASE: ':HEX$(NT_START,24)
720 REMark
740 NAMTABL_END=PNTR_BAS + 28
760 OFFSET=PEEK_L(NAMTABL_END)
780 NT_END=PNTR_BAS + OFFSET
800 PRINT '      END: ':HEX$(NT_END,24)
820 REMark
840 NAM_LIST=PNTR_BAS+ 32
860 OFFSET=PEEK_L(NAM_LIST)
880 NL_START=PNTR_BAS+ OFFSET
900 PRINT 'NAME LIST      BASE: ':HEX$(NL_START,24)
920 REMark
940 NAMLIST_END=PNTR_BAS + 36
960 OFFSET=PEEK_L(NAMLIST_END)
980 NL_END=PNTR_BAS + OFFSET
1000 PRINT '      END: ':HEX$(NL_END,24)
1020 REMark
1040 VAR_VALUES=PNTR_BAS+ 40
1060 OFFSET=PEEK_L(VAR_VALUES)
1080 vv_start=PNTR_BAS+ OFFSET
1100 PRINT 'VARIABLE VALUES BASE: ':HEX$(vv_start,24)
1120 REMark
1140 VARVAL_END=PNTR_BAS + 44
1160 OFFSET=PEEK_L(VARVAL_END)
1180 VV_END=PNTR_BAS + OFFSET
1200 PRINT '      END: ':HEX$(VV_END,24)
1220 test$='this is a test example'
1240 REMark
1260 PRINT#0,'HIT ANY KEY TO CONTINUE' : PAUSE : CLS#0
1280 SHOW_TABLE 1
1300 IF P# :
1320     CLS : CLS#0 : PRINT#0,'Hit any key when Printer ready'
1340     PAUSE : SHOW_TABLE 3
1360 ELSE
1380     STOP
1400 END IF

```

```

1420 DEFINE PROCEDURE layout
1440   BORDER #0,8,0
1460   WINDOW #2,512,216,0,0 : BORDER #2,5,0
1480   WINDOW #1,512,216,0,0 : BORDER #1,5,0
1500   PAPER #2,0 : INK #2,4
1520   PAPER 0 : INK 6
1540   PAPER#0,0 : INK#0,2 : MODE 4
1560 END DEFINE layout
1580 DEFINE PROCEDURE SHOW_TABLE(chan)
1600   LOCAL addr,fin,off,ch
1620   addr=NT_START
1640   fin=NT_END
1660   ch=chan
1680   PRINT#ch, \
1700   FOR a=addr TO fin STEP 8
1720     type=PEEK_W(a)
1740     PRINT#ch, 'Code: ';HEX$(type,16);
1760     SELECT ON type
1780       =1 : a$='Unset string'
1800       =2 : a$='Unset fp. #'
1820       =3 : a$='Unset integer'
1840       =257: a$='Str.expr.'
1860       =258: a$='FP expr.'
1880       =259: a$='Integer expr.'
1900       =513: a$='String'
1920       =514: a$='F.Point Number'
1940       =515: a$='Integer'
1960       =768: a$='Substring'
1980       =769: a$='String array'
2000       =770: a$='FP array'
2020       =771: a$='Integer array'
2040       =1024: a$='Super Basic Proc'
2060       =1026: a$='Super Basic Proc'
2080       =1281: a$='SupBas Str Func'
2100       =1282: a$='SupBas FP Func'
2120       =1283: a$='SupBas Int Func'
2140       =1538: a$='Rep Loop Index'
2160       =1794: a$='For Loop Index'
2180       =2048: a$='Mach Code Proc'
2200       =2304: a$='Mach Code Func'
2220       =REMAINDER : a$='Type error'
2240     END SELECT
2260     PRINT#ch, ' '; a$; ' ';
2280     off=PEEK_W(a+2)
2300     flag=0
2320     SELECT ON off
2340       =-1 : c$='No Name' : flag=1
2360       = 0 TO 32767 : c$='Name Ptr'
2380       =-2 TO -32767 : c$='Copy'
2400     END SELECT
2420     PRINT#ch, TO 28
2440     PRINT#ch, c$,HEX$(off,16);
2460     nam_addr=NL_START + off
2480     Nam_len=PEEK(nam_addr)
2500     PRINT#ch, TO 40
2520     IF flag : GO TO 2680
2540     FOR c=1 TO Nam_len
2560       dat= PEEK(nam_addr +c)
2580       SELECT ON dat
2600         =32 TO 126 : PRINT#ch, CHR$(dat);
2620         =REMAINDER : PRINT#ch. HEX$(dat,8);' ';
2640     END SELECT
2660 END FOR c

```

```

2680 flag=0
2700 SELECT ON type
2720 =1 TO 3,513 TO 515,769 TO 771,1538,1794 : bs='Value ptr'
2740 =257 TO 259,768 : bs='RI Stk ptr'
2760 =1024,1026,1281 TO 1283 : bs='Line Number':flag=1
2780 =2048,2304 : bs='Abs Addr' : flag=2
2800 END SELECT
2820 PRINT#ch, TO 60
2840 PRINT#ch, bs;
2860 val=PEEK_L(a+4)
2880 val_flag=0
2900 SELECT ON flag
2920 =0:IF val=-1 :
2940 ds='Undefined'
2960 ELSE val_addr=vv_start + val
2980 ds=val
3000 vs=HEX$(PEEK_L(val_addr),32) & HEX$(PEEK_L(val_addr+4),32)
3020 val_flag=1
3040 END IF
3060 =1: ds=PEEK_W(a+4)
3080 =2: ds=HEX$(val,24) : IF val>786432 : INK 2
3100 =REMAINDER : ds='Flag Error'
3120 END SELECT
3140 PRINT#ch, TO 70
3160 PRINT#ch, ds
3180 IF val_flag :
3200 PRINT#ch, 'Value Table shows : ';
3220 SELECT ON type
3240 =513 : str_len=PEEK_W(val_addr)
3260 FOR e=val_addr+2 TO val_addr+str_len+1 : PRINT#ch,CHR$(PEE
K(e));
3280 PRINT#ch,
3300 =514 : PRINT#ch,v$;' = ':: conv_fp v$
3320 =515 : PRINT#ch, HEX$(PEEK_W(val_addr),16)
3340 =REMAINDER : PRINT#ch,v$
3360 END SELECT
3380 END IF
3400 INK 6
3420 END FOR a
3440 END DEFINE SHOW_TABLE
3460 DEFINE PROCEDURE printer
3480 pr=0
3500 REMARK sets up a printer at 9600 Baud on SER1hr : modify as required
3520 PRINT#0,'If you wish printer output toggle <CTRL><P>,'\'Else hit any key
3540 a$=INKEY$(-1) : c=CODE(a$) : CLS#0
3560 IF c=16 :
3580 pr=1
3600 OPEN#3,ser1hr
3610 PRINT#0,'Printer channel opened. SER1hr at 9600 Baud'
3620 BAUD 9600
3640 END IF
3660 END DEFINE printer
3680 DEFINE PROCEDURE conv_fp(fp$)
3700 LOCAL fp,expon,man
3720 expon=HEX(fp$(2 TO 4))
3740 man=HEX(fp$(5 TO 12))
3760 fp = man * (2^(expon-2048-31))
3780 PRINT fp
3800 END DEFINE

```

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The Vancouver Sinclair Users Group has been in existence since 1982. We are a support group for the owners and users of the, Microace, ZX 80, ZX 81, T/S 1000, T/S 1500, Spectrum, Spectrum+ T/S 2068 and QL computers.

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